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FIRST PLUMAGES.

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Plate II.

IN PLATE II of this number of 'The Auk' is given the first of a series of plates intended to illustrate the first or nestling plumage of various North American birds. The Ovenbird (*Sciurus aurocapillus*) is the subject chosen for the present plate, in which is shown the adult bird and the young just from the nest.

As is well known, the first plumage is worn for only a few weeks, to be succeeded by a plumage of quite different character, as regards, usually, both its structure and coloration. It also differs widely in character in different groups of birds. In the Owls, Hawks, Gallinaceous Birds, Snipes, Rails, Ducks, Grebes, and most Water-fowl, it is little more than a thick covering of fluffy down. This is succeeded by a covering of true feathers, which is, as a rule, worn till the moulting season of the following year. In all these birds the first downy plumage is present when the chick is hatched. On the other hand, all Passerine birds, and many others, as the Woodpeckers, Swifts, Pigeons, etc., are born practically naked, and their first clothing consists of true feathers, which develop while the bird is a helpless

nestling; the clothing feathers being nearly full-grown when the young bird leaves the nest, while the flight feathers are only partly so. The first flight feathers may be moulted in a few weeks, or be worn during the first year, even in species not distantly related. Thus in the Woodpeckers, the Cowbird, and the Horned Larks they are moulted in the course of a few weeks, with the first clothing feathers, while in the Sparrows and in most Passerine birds they are not renewed till the following summer.

Speaking generally, the first clothing feathers in Passerine birds are replaced by a more permanent set soon after the young bird leaves the nest. This 'first' or 'nestling' plumage can usually be recognized by its loose, fluffy texture, as compared with that of adult birds of the same species, even though the coloration may be similar; but generally it differs notably also in color, and often in pattern of markings, from that which immediately succeeds it, or from any plumage which may be afterward acquired. Familiar illustrations are furnished by the Robin and the Bluebird, where the first plumage is so strikingly unlike, both in color and markings, that of the adult bird of either sex. The difference is almost as great in many of the Sparrows, as, for example, in the Juncos and Towhees, and is even conspicuous in such species as the Field and Chipping Sparrows.

Although this first plumage is particularly interesting and instructive, affording frequently clues to ancestral relationships, it has not until recently attracted the attention it deserves, even among 'professional' ornithologists. Fledglings, as a rule, have not been looked upon as attractive additions to the cabinet; and being furthermore rather difficult to prepare as specimens, on account of the loose texture of the plumage and the tenderness of the skin in young birds, they have not proved attractive to collectors. Of late years, however, their importance has been more fully recognized, and 'first plumages' are now considered as an essential feature of a collection, even by amateurs, and are not unfrequently kept in stock by dealers.

Some years since attention was called to this long-neglected subject by Mr. William Brewster, through his series of papers published in the 'Bulletin' of the Nuttall Ornithological Club

(Vol. III, 1878, pp. 15-23, 56-64, 115-123, 175-182, and Vol. IV, pp. 39-46), entitled 'Descriptions of the First Plumage in Various Species of North American Birds,' in which the first or nestling plumage of 119 species was for the first time described. Casual descriptions of the first plumage in various other species have since appeared, as well as a formal paper by Mr. George B. Sennett (*Auk*, IV, 1887, pp. 24-28), treating of ten additional species. The first plumage in very few North American birds, however, has thus far been figured, and the capabilities of the subject in other respects have as yet been by no means exhausted.

While in some species the young in first plumage bear a close resemblance in color to the adults, as in some of the Flycatchers, Jays, Chickadees, Vireos, etc., in other cases they are so totally unlike the adults as to be sometimes identifiable with difficulty even by experts, and only by structural characters rather than by plumage, as in various Warblers and Sparrows, as is well shown by the subject of the present illustration. The first plumage is thus often exceedingly characteristic, closely allied subspecies sometimes differing more at this early stage than at any later period. Its real significance, however, has as yet been little studied.

Although the Ovenbird is so common and well-known a species, probably few ornithologists even have seen it in first plumage. As shown in the illustration, it lacks all of the characteristic tints and markings of the adult, the quills of the wings and tail being the only portions of the plumage that resemble corresponding parts in the adult. There is no trace in the young bird of the prominent black and dull orange head-stripes of the mature bird. The back is deep brown with narrow streaks of blackish instead of uniform bright olive-green as in the adult. The lower parts, instead of being nearly clear white heavily streaked with dusky, are strong buffy, darkest across the breast, with very narrow lines of blackish. From this plumage the young bird moults directly into that of the adult, the young in autumnal dress being quite indistinguishable from the older birds. The quills, however, are not moulted till the following year. The young bird represented in the plate was drawn from specimen No. 27,246, in the collection of the American Museum of Natural History, and was collected at Hartsdale, N. Y., by Mr. J. Richardson.